

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): Multicapillary electrophoresis system comprising a plurality of juxtaposed capillaries, at least one source for the emission of a light beam intended to excite molecules lying in its path and inside the capillaries and means for detecting the fluorescence of the molecules excited by said light beam, wherein said means are arranged so as to detect ~~the~~ light which emerges at the exit of said capillaries and which propagates along the direction in which said capillaries extend, the resolution of the detection means is high enough to distinguish ~~the~~ light which emerges at the exit of each of the capillaries, ~~and the refractive index of the media outside of the capillaries is equal or superior to that of the medium inside of the capillaries~~ a first liquid is disposed outside of the capillaries, and a second liquid is disposed inside of the capillaries, the first liquid has a first refractive index and the second liquid has a second refractive index, wherein said first refractive index is equal to or superior to said second refractive index.

Claim 2 (Currently Amended): The multicapillary electrophoresis system according to claim 1, wherein the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the capillaries from that coming from ~~the walls of the latter capillaries~~ a liquid and/or from ~~the~~ a liquid medium which surrounds them capillaries.

Claim 3 (Currently Amended): The multicapillary electrophoresis system according to claim 1, ~~further including~~ said plurality of juxtaposed capillaries forming at least one linear array.

Claim 4 (Currently Amended): The multicapillary electrophoresis system according to claim 1, wherein the ~~excitation~~ light beam is of elongate cross section and strikes several juxtaposed capillaries simultaneously.

Claim 5 (Currently Amended): The multicapillary electrophoresis system according to claim 3, further including means for producing multiple focusing for the light beam on ~~a the at least one linear array of capillaries~~.

Claim 6 (Currently Amended): The multicapillary electrophoresis system according to claim 3, wherein the light beam exiting ~~the a~~ side of one capillary of ~~one~~ the at least one linear array of capillaries is focused onto ~~the an~~ adjacent juxtaposed capillary within ~~the another following~~ linear array of capillaries following the at least one linear array of capillaries.

Claim 7 (Currently Amended): The multicapillary electrophoresis system according to claim 6, wherein ~~the a~~ space between the capillaries is filled, at least along the path of the excitation beam, with ~~a the material~~ second liquid, wherein the second ~~whose refractive index is chosen so that the excitation light~~ beam does not diverge after having traveled through a capillary.

Claim 8 (Currently Amended): The multicapillary electrophoresis system according to claim 5, wherein said ~~material~~ second liquid is transparent and non-fluorescent.

Claims 9-10 (Canceled)

Claim 11 (Previously Amended): The multicapillary electrophoresis system according to claim 1, wherein the detection means provide a complete image of the light exiting the capillaries.

Claim 12 (Currently Amended): The multicapillary electrophoresis system according to claim 1, wherein the detection means ~~further includes detection means of~~ is ~~the a~~ charge-coupled device (CCD) ~~type having, as well as~~ beam focusing capability ~~means~~.

Claim 13 (Currently Amended): The multicapillary electrophoresis system according to claim 1, wherein the detection means ~~further includes detection means of~~ is ~~the a~~ charge-coupled device (CCD) ~~type, as well as~~ and a fiber bundle interposed between the exits of the capillaries and the ~~detection means of the charge-coupled~~ CCD device ~~type~~.

Claims 14-15 (Canceled)

Claim 16 (Currently Amended): The multicapillary electrophoresis system according to claim 1 wherein the portion of the outside of the wall of the capillaries between the impact of the excitation beam and the end of the capillaries is ~~turned black~~blackened.

Claim 17 (Previously Amended): The multicapillary electrophoresis system according to claim 16 wherein the capillaries are glued on a support.

Claim 18 (Previously Amended): The multicapillary electrophoresis system according to claim 17, wherein the capillaries are glued on the support using a non transparent glue.

Claim 19 (Currently Amended): The multicapillary electrophoresis system according to claim 1, wherein ~~one end of the capillaries is placed in a cell under pressure and the capillaries are fixed on a support by~~ with glue and one end of the capillaries is disposed in a cell under pressure, said glue suitable to resist the internal pressure of the cell.

Claim 20 (Previously Amended): The multicapillary electrophoresis system according to claim 1, wherein the distance between the impact of the excitation beam on the capillaries and the end of the capillaries is between 6 to 30 times the internal diameter of the capillaries.

Claim 21 (Previously Amended): The multicapillary electrophoresis system according to claim 1, wherein a mirror is facing the source on the side of the capillaries which is opposed to said source.

Claim 22 (Currently Amended): The multicapillary electrophoresis system according to claim 5, wherein said means for producing multiple focusing of the light beam on at the at least one linear array of capillaries comprises microlenses positioned juxtaposed to the at least one linear array of capillaries.

Claim 23 (Currently Amended): A multicapillary electrophoresis system comprising:
a plurality of juxtaposed capillaries each having an entrance and an exit,

at least one source for the emission of a light beam intended to excite molecules lying in its path and inside the plurality of juxtaposed capillaries and means for detecting the fluorescence of the molecules excited by said light beam, wherein said means are arranged so as to detect ~~the~~ light which emerges at the exit of said plurality of juxtaposed capillaries and which propagates along ~~the~~ a direction in which said plurality of juxtaposed capillaries extend, the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the plurality of juxtaposed capillaries, and ~~the~~ a portion of the outside of ~~the~~ a wall of the capillaries between the impact of the excitation light beam and the ~~end~~ exit of the capillaries is ~~turned blackened~~.

Claim 24 (Currently Amended): The multicapillary electrophoresis system according to claim 23, wherein the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the plurality of juxtaposed capillaries from that coming from ~~the~~ walls of the latter and/or from ~~the medium~~ a first liquid which surrounds ~~them~~ the plurality of juxtaposed capillaries.

Claim 25 (Previously Presented): The system according to claim 23, further including said plurality of juxtaposed capillaries forming at least one linear array.

Claim 26 (Currently Amended): The system according to claim 23, wherein the excitation light beam is of elongate cross section and strikes several juxtaposed capillaries simultaneously.

Claim 27 (Currently Amended): The system according to claim 25, further including means for producing multiple focusing of the light beam on a linear array of capillaries.

Claim 28 (Currently Amended): The system according to claim 25, wherein the beam exiting ~~at~~ the side of one capillary of one linear array is focused onto ~~the~~ an adjacent juxtaposed capillary within ~~the~~ a following linear array.

Claim 29 (Currently Amended): The system according to claim 28, further including wherein the a space between the capillaries of the plurality of juxtaposed capillaries is filled, at least along the path of the excitation beam, with a ~~material~~ second

liquid whose refractive index is chosen so that the excitation light beam does not diverge after having traveled through a capillary of the plurality of juxtaposed capillaries.

Claim 30 (Currently Amended): The system according to claim 29, wherein said ~~material~~ second liquid is transparent and non-fluorescent.

Claims 31-32 (Canceled)

Claim 33 (Currently Amended): The system according to claim 23, wherein the detection means provide a complete image of the light exiting the plurality of juxtaposed capillaries.

Claim 34 (Currently Amended): The system according to claim 23, wherein the detection means ~~further includes detection means of the~~ is a charge-coupled device (CCD) ~~type, as well as with~~ focusing ~~means~~ capability.

Claim 35 (Currently Amended): The system according to claim 23, wherein the detection means ~~further includes detection means of the~~ is a charge-coupled device (CCD) ~~type, as well as and~~ a fiber bundle interposed between the exits of the capillaries of the plurality of juxtaposed capillaries and the ~~detection means of the charge-coupled device (CCD) type~~.

Claim 36 (Currently Amended): The system according to claim 23, wherein ~~the~~ a first refractive index of ~~the~~ media first liquid outside of the of the plurality of juxtaposed capillaries is less ~~to~~ than that of ~~the~~ medium second liquid inside of the of the plurality of juxtaposed capillaries.

Claim 37 (Currently Amended): The system according to claim 23, ~~wherein~~ further including the plurality of juxtaposed capillaries are glued on a support using a non-transparent glue.

Claim 38 (Currently Amended): The system according to claim 23, wherein the distance between the impact of the excitation light beam on the plurality of juxtaposed capillaries and the ~~end~~ exit of the plurality of juxtaposed capillaries is between 6 to 30

times the internal diameter of each of the capillaries of the plurality of juxtaposed capillaries.

Claim 39 (Currently Amended): The system according to claim 23, wherein a mirror is facing the at least one source on the side of the capillaries which is opposed to said source.

Claim 40 (Currently Amended): The system according to claim 27, wherein said means for producing multiple focusing of the light beam on a linear array of capillaries comprises microlenses positioned juxtaposed to the linear array of capillaries.